

- REMARKS -

Claims 1 and 16 are hereby amended. Claims 2, 3, 4, 7, 8, 14, 15 are cancelled. Claims 18 and 19 have been added. Claims 1, 5, 6, 9, 10, 11, 12, 13, 16, 17, 18, 19 are therefore pending in the application.

The invention covers:

A flexographic ink comprising polyhydroxyalkanoate (PHA), a binder being a triblock amphiphilic molecule, a solvent and a dye or a pigment in an amount effective to provide a visible mark on a substrate, wherein said PHA is at concentration between about 20 to 80% (w/v), said binder is at a concentration between about 0.5 to 20% (w/v), said solvent is at concentration between about 1 to 25% (v/v), and said dye or pigment is at concentration between about 1 to 40% (w/v).

Claim rejections

The Examiner has rejected Claims 1-3, 5-6 and 10-13, under 35 U.S.C. § 102(b) as presumably being anticipated by JP 2001-294792.

Indeed, the Examiner stipulates that this document teaches a biodegradable composition comprising at least one biodegradable resin from the group consisting of polylactic acid, cellulose acetate, polyvinyl alcohol, polycaprolactone, polybutylene succinate and polyethylene succinate. None of these resin as taught by document JP 2001-294792 consist of polyhydroxyalkanoate (PHA) as is now claimed in the application.

The Examiner also stipulates that the composition may comprise an additive agent such as a solvent, a dispersing agent, a surface-active agent, an antifriction agent, an antifungal agent, a preservative, an antioxidant, thickening stabilizer or a brightening agent. None of these additive agents comprise a binder which is an amphiphilic molecule such as is presently claimed in the application.

Document JP 2001-294792 is therefore not considered to anticipate the invention as now claimed in the application and the Examiner is requested to withdraw this rejection.

The Examiner is also rejecting claims 1-3, 5-9, 13 and 15, under 35 U.S.C. § 103(a) as being presumably unpatentable over Stockl *et al.* (US 4,883,714). Applicant disagrees with this rejection for the following reasons.

The Examiner stipulates that Stockl *et al.* teach an aqueous printing ink having the same materials although in not the same exact proportions as the instant claim.

Applicant wishes to point out that Stockl teaches a composition comprising:

- water; (line 56)
- a pigment or dye; (line 54)
- polyvinyl alcohol (PVA); and
- a polymeric material (col. 20, line 64 to col. 21, line 52)

whereas the composition claimed herein comprises:

- water;
- a pigment or dye;
- a binder / amphiphilic compound
- a biodegradable polymer (PHA).

The polymeric material from Stockl is different from Applicant's PHA (an aliphatic polyester) as much from a functional aspect than from its molecular structure. Among others, the polymeric material from Stockl MUST comprise at least 4 elements:

- one difunctional dicarboxylic acid;
- one difunctional sulfomonomer containing at least one metal sulfonate group attached to an aromatic or cycloaliphatic nucleus;
- one difunctional reactant selected from a glycol or mixture of glycol and diamine;
- none to at least one difunctional reactant selected from a hydroxycarboxylic acid having one C(R)₂-OH group.....(see detailed description at column 22).

Therefore, the Examiner has failed to show that Stockl *et al.* teach a combination of a polyhydroxyalkanoate (PHA) with an amphiphilic binder such as is claimed in the present invention. Irrespective of the proportions of the different components of the ink presented in Stockl *et al.*, there is no suggestion or motivation in the document of Stockl *et al.* to substitute the one or more polymeric material as is taught by Stockl with a polyhydroxyalkanoate as is presently claimed. In addition, Stockl *et al.* is completely silent about **a binder being an amphiphilic molecule in order to crosslink the polymeric material** (i.e. PHA), with the dye or pigment present in the flexographic ink.

As the Examiner states, "*the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.*" However, in contrast, the invention does not lie within these specific percentages of the different components of the ink, but **in its composition being polyhydroxyalkanoate with a binder being an amphiphilic molecule, said binder being useful to cross-link the biodegradable polymer with the pigment or dye.** Stockl *et al.* is completely silent about this type of composition, this type of combination or its usefulness.

The Examiner also rejects claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Stockl *et al.* in view of JP 2001-294792. Applicant believes that since Stockl *et al.* does not teach, nor suggest, nor motivate one to select a polyhydroxyalkanoate as the resin contained in the flexographic ink in combination with a binder being an amphiphilic molecule, the rejection of claim 12 over Stockl *et al.* in view of JP 2001-294792 must also fail. The Examiner has failed to establish a *prima facie* case of obviousness and the rejection must fail.

The Examiner has also rejected claims 16 and 17 under 35 U.S.C. § 103(a) as being unpatentable over Stockl *et al.* because Stockl *et al.* overlap the instantly claimed proportions. Once again, the Examiner has failed to make a case that Stockl *et al.* disclose, suggest or teach **polyhydroxyalkanoate as a resin in combination with an amphiphilic binder molecule** for cross-linking with the pigment or dye. The Examiner has thus failed to establish a *prima facie* case of obviousness and the rejection must fail.

Claim 1 as amended is therefore deemed patentable and the Examiner is requested to withdraw the rejections. Claims 5, 6, 9, 10, 11, 12, 13, 16, 17, 18, 19 all ultimately depend on claim 1 and are thus non-obvious. The objection is overcome.

The Examiner is therefore respectfully requested to withdraw all rejections and early allowance the claims is earnestly solicited.

In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of this application may be expedited.

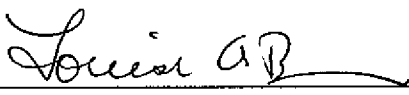
The Applicant herewith petitions the Commissioner to extend the time for reply to the Office Action dated August 5, 2008, for 3 months from November 5, 2008 up to February 5 2009. Please charge deposit account No. 19-5113, in the amount of \$555.00 to cover the cost of the 3 month extension under small entity status.

No other fees is believed to be due, however, the Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment to Deposit Account No. 19-5113.

Respectfully submitted,

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